

CLAIMS

1) A unit (1) for applying opening devices (2) to packages (3) of pourable food products having a rupturable portion (5), the unit (1) comprising:

first conveying means (20) for feeding said packages (3) successively along a first path (P1); and

gripping means (26) for receiving said opening devices (2) at a pickup station (11), and which move cyclically between said pickup station (11) and an application station (12) interfacing with said first path (P1) and where the opening devices (2) are applied to respective said packages (3);

characterized in that the trajectory of said gripping means (26) from said application station (12) to said pickup station (11) is distinct from said first path (P1), and in that the unit (1) also comprises pressure means (31) generating a contact pressure between said packages (3) and said opening devices (2) as of said application station (12) and along at least a portion (X) of said first path (P1).

2) A unit as claimed in Claim 1, characterized in that said pressure means (31) comprise a number of pressure members (33), which act on respective said opening devices (2) to press them onto respective said packages (3) in a direction (E) crosswise to the feed plane of the packages (3) along said first path (P1); and second conveying means (32) for feeding said pressure

means (33) along a second path (P4) interfacing with said first path (P1) as of said application station (12) and along said portion (X) of the first path.

3) A unit as claimed in Claim 2, characterized in
5 that each said pressure member (33) comprises a support (41) integral with said second conveying means (32); and an actuating member (42) fitted to said support (41) to move along an axis (E) perpendicular to the feed plane of said packages (3) along said first path (P1), and which
10 is movable between a work position, in which it acts on a relative said opening device (2) to keep it pressed on the relative said package (3), and a rest position, in which it is detached from said opening devices (2).

4) A unit as claimed in Claim 3, characterized in
15 that said gripping means (26) define at least one seat (30) for retaining a relative said opening device (2), and which is open on both sides in a direction parallel to said axis (E) of movement of each said actuating member (42), and on the trailing side in the travelling
20 direction of the gripping means (26) from said application station (12) to said pickup station (11).

5) A unit as claimed in Claim 3 or 4, characterized in that said pressure means (31) comprise control means (57, 58, 67, 72, 76) for moving said actuating members
25 (42) into said work position along said portion (X) of said first path (P1), and into said rest position along the rest of said second path (P4).

6) A unit as claimed in Claim 5, characterized in

that, for each said pressure member (33), said control means comprise first elastic means (57) for loading the relative said actuating member (42) into said work position; and retaining means (58) fitted to the relative
5 said support (41) to move between a disabling position retaining said actuating member (42) in said rest position in opposition to said first elastic means (57), and an enabling position allowing said actuating member (42) to move into said work position.

10 7) A unit as claimed in Claim 6, characterized in that said support (41) of each said pressure member (33) comprises a hollow body (50) having an open end portion (51) facing said packages (3), and housing the relative said actuating member (42) and said first elastic means
15 (57); said retaining means of each said pressure member (33) comprising a movable member (58) fitted to the relative said support (41) to move in a direction (F) crosswise to said axis (E) of movement of the relative said actuating member (42), and which interferes with
20 said open end portion (51) of the relative said hollow body (50) in said disabling position to prevent the actuating member (42) from being moved into the work position by said first elastic means (57).

8) A unit as claimed in Claim 7, characterized in
25 that each said movable member (58) is loaded by second elastic means (64) into said disabling position; and in that said control means comprise interacting means (67) located at said application station (12) and acting on

each said movable member (58), in opposition to the relative said second elastic means (64) and as the relative said pressure member (33) travels along said portion (X) of said first path (P1), so as to move the
5 movable member (58) into said enabling position.

9) A unit as claimed in any one of Claims 5 to 8, characterized by comprising fixed guide means (76) located at an end portion of said portion (X) of said first path (P1), and interacting with an actuating
10 portion (72) of each said actuating member (42) to restore the actuating member (42) to said rest position in opposition to said first elastic means (57).

10) A unit as claimed in any one of Claims 5 to 9, characterized by comprising damping means (75) located at
15 said application station (12) and interacting with each said actuating member (42) being moved into said work position by said first elastic means (57), to control the impact of the actuating member (42) on the relative said opening device (2).

20 11) A unit as claimed in Claim 10, characterized in that said damping means (75) comprise a rocker arm (77) hinged at an intermediate point about an axis (G) crosswise to the axis (E) of movement of each said actuating member (42), and having a first end portion
25 (78) located at said application station (12) and along the trajectory of a portion (72) of the actuating member (42), and a second end portion (79) loaded by a damper (80).